AUSTRALIAN SOCIETY FOR LIMNOLOGY

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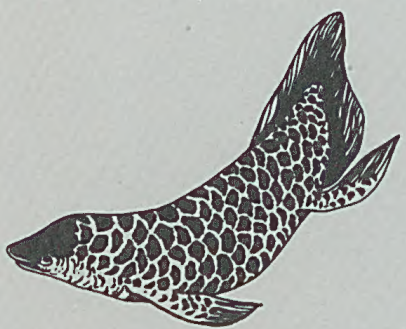

LIMNOLOGY NEWSLETTER

Volume 23. Number 2. July 1985

The Australian Society for Limnology is an association of over 400 people with professional or amateur interests related to Australian inland waters Since its inception in 1961 the Society has played an important role in fostering limnological work in this country. The ASL promotes liason between limnologists in academic, private and governmental institutions and has a vested interest in the conservation of aquatic and related resources. Annual conferences are held near centres of limnological interest, and the programme includes scientific sessions, field excursions and social activities.

The ASL produces a newsletter with notes on activities, articles of general interest, book reviews and conference announcements; a Bulletin of original scientific papers and occasional Special Publications. A further publication is the Directory of Australian Limnologists.

Membership applications are welcomed; five classes of subscribing membership are available:

Ordinary Members : $15.00
Student Members : $6.00
Life Members : $200.00
Institutional Members : Fees on Application
Sustaining Members : Fees on Application

Membership subscriptions cover the period from 1 July to 30 June and members receive all publications. Members may also choose to receive the Australian Journal of Marine and Freshwater Research, the Australian Journal of Zoology and/or the Australian Journal of Botany at reduced rates. The subscription period for each journal is the calendar year following the year in which the subscription is paid.

ASL Executive 1984-5

President : John Kirk
Past-President: Barry Hart
Vice-President : Ian Campbell
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LIMNOLOGY

NEWSLETTER

Volume 23. Number 2. July 1985

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Deadline for the next issue : 30 September.

News

DR. K.F. WALKER

Dr. K.F. Walker is presently overseas (January-August) and spending most of his time based at the Freshwater Biological Association's Freshwater Laboratory at Wareham, Dorset, U.K.

FRESHWATER RESEARCH GROUP

A Freshwater Research Group (F.R.G.) has recently been formed at James Cook University of North Queensland. They are an informal association of postgraduate students and academic staff with common interests in Limnology, meeting at regular intervals usually over a few jugs of beer - but with the aim of promoting freshwater research.

The University has a strong bias towards the marine aspects of biology but despite this, there has been a movement in recent years towards limnological studies, particularly in the postgraduate area. Indeed there is no purely limnological course offered to undergraduates, so one of their aims has been to introduce this science to students. In November some F.R.G. members and a party of undergrads had a successful weekend field trip to Keelbottom Creek, in the Townsville hinterland, where they investigated the "dry season" limnology of some of the creek's billabongs.

Any interested people can contact the group by writing to:

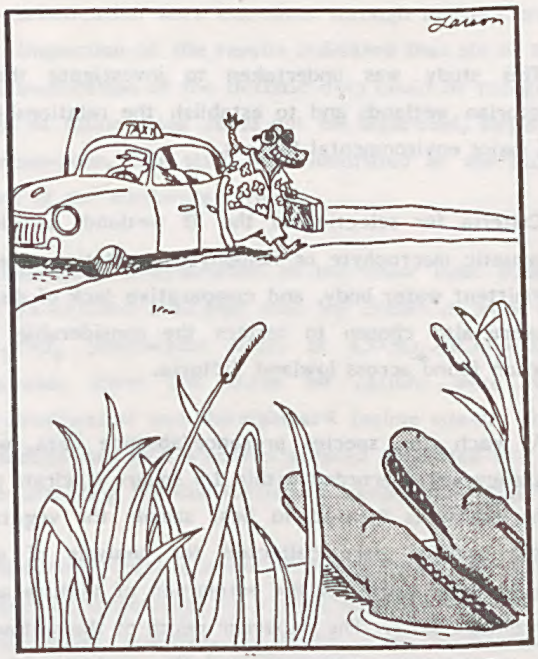
FRESHWATER RESEARCH GROUP
School of Biological Sciences
James Cook University of North Queensland
Townsville QLD 4811

FAREWELL TO JOHN BLYTH

At the last meeting of the Victorian Chapter of ASL, we farewelled John Blyth who is leaving us to take up a position as Scientific Adviser to the Department of Conservation and Land Management in Western Australia.

After much deliberation as to suitable farewell gifts we took up a collection and presented him with a pair of autographed waders as a token of our esteem.

We will miss you John, but wish you all the best for the future.



"Well, for crying out loud! . . . It's Uncle Irwin from the city sewer!"

Thesis Abstracts

Numerical Analyses of Macrophyte Vegetation in Victorian Wetlands in Relation to Environmental Factors.

By Michele M. Barson Ph.D thesis, 1984, University of Melbourne

This study was undertaken to investigate the variability of vegetated Victorian wetlands and to establish the relationships between this variation and major environmental factors.

Criteria for selection of the 55 wetlands sampled included the presence of aquatic macrophyte or helophyte vegetation, the presence of at least an intermittent water body, and comparative lack of disturbance of the site. Sites were also chosen to reflect the considerable lithological and climatic variation found across lowland Victoria.

At each site, species presence/absence data, water depth and water transparency were recorded within 1m square quadrats positioned at 5m intervals along transects located to best sample the vegetation. At each transect, water samples were collected for analysis of major ions, and substrate samples were taken for the estimation of texture and measurement of pH and percentage salts. The maximum depth of the wetland when flooded and its water regime were estimated and the geology and rainfall of the catchment were recorded.

An information statistic strategy was used to classify the large,

relatively sparse set of floristic data. The classification recognised five distinctive, relatively homogenous and ecologically interpretable groups of wetlands, which were characterised as having saline very saline, turbid, acidic or calcareous waters; and a further three freshwater groups which were closely related to one another.

The application of data reduction techniques suggested that the information statistic model used was unable to adequately define some or the freshwater groups of sites primarily because of the highly heterogenous nature of the data set. Two more data sets were produced by deleting species with low "eident" values (Dale and Williams 1978) and by deleting species regarded as terrestrial. However, classification of these reduced data sets did not provide markedly better results.

The relationships between the groups (and their members) generated by classification were examined through indirect ordination of the floristic data. Inspection of the results indicated that six of the eight groups identified by classification of the floristic data could be recognised. However, the two groups of saline sites could not be separated, largely because they were both species-poor. Six sites were identified as the probable cause of overlap of some of the freshwater groups.

Laboratory determination of the major ionic constituents of the waters of the 55 wetlands indicated that the orders of anion dominance were $Cl>HCO_3+CO_3>SO_4$ (freshwater sites) or $Cl>SO_4>HCO_3+CO_3$ (saline and coastal freshwater sites) and those for cations were Na>Mg>Ca>K or Na>Ca>Mg>K (freshwater) and Na>Mg>Ca>K (saline sites). The dominance of chloride and sodium ions in the waters sampled suggested that salinity may be a major factor affecting the distribution of aquatic macrophytes in Victoria.

Numerical classification of the wetlands on the basis of their water chemistry was undertaken to provide a comparison with the eight group floristic classification. However, two of the intuitively recognised groups, the turbid and calcareous waters, were not identified by classification of the water chemistry data. Membership of the two independently generated sets of groups was not identical.

The nature of the hypothesized joint pattern between the floristic and the water chemistry data was further investigated by canonical correlation analysis, analyses of variance and discriminant analyses. These analyses confirmed that overall, the variance observed in the vegetation of the wetlands sampled was significantly influenced by water chemistry. However, the level of vegetational variation identified as a result of classification of the floristic data (eight groups) did not correspond well with the measured differences in the water chemistry variables. Vegetation differences which could be attributed to water chemistry differences were those between the saline groups, the turbid water group, the acidic water group, the freshwater complex of three groups, and possibly the calcareous group. The salinity variable largely separated the saline groups from the rest, whilst pH separated the acidic water and calcareous water groups from each other and the freshwater complex. The turbid water group was separated by a combination of pH and salinity variables.

An evaluation of the numerical methods used is presented and other factors which may be important in explaining the heterogeneity of the saline and freshwater floristic complexes are discussed. The wetland vegetation sampled in Victoria is compared with the plant communities of Tasmanian wetlands.

Dale, M.B. and Williams, W.T. (1978). A new method of species reduction for ecological data. Aust. J. Ecol. 3:5-1

The Transport of Pollutants by Suspended Sediments in the Yarra River.

By P.L. Sinclair M.App.Sc. thesis, 1984, Chisholm Institute .

This thesis reports the use of a continuous flow centrifuge to gram quantities of <63um suspended sediment from the Yarra River, Victoria, Australia. This suspended sediment was characterised for its content of phosphorus, iron, manganese, copper, chromiun, lead and zinc. The organic content and particle size distribution of the suspended sediment were also

examined.

The suspended sediment associated phosphorus, iron and manganese accounted for 60%, 90% and 70% of the total measured stream load respectively. Higher mean concentrations of phosphorus, manganese, iron and organic matter and lower mean concentrations of lead and zinc were measured at the downstream site (an urban site) relative to the upstream site (with mainly rural areas upstream). Mean loads of particulate trace elements were higher at the downstream site, primarily because most of the suspended solids load measured at the downstream site entered the river between the two sites (approximately 70% of the total load). The higher phosphorus concentration in the suspended sediment from the upstream site was largely attributable to a sewage discharge. The higher lead and zinc concentrations at the downstream site were considered to be due to urban sources.

The suspended sediment was subject to an algal bioassay procedure which showed that Scenedesmus obliquus could utilize particulate associated phosphorus. Three extraction methods (sodium hydroxide, anion exchange resin, and autoclaving) were applied to the particulates and indicated that up to 90% of the total suspended phosphorus was potentially available. More phosphorus was extracted from the suspended sediment from the upstream site than from the downstream site.

The geochemical forms of the trace elements; Fe, Mn, Cu, Cr, Pb and Zn were investigated by use of a sequential extraction procedure. Manganese, lead and zinc had a proportion in the more readily available forms, the latter two mainly being of concern at the downstream site.

High flow events carried higher loads of suspended sediment associated trace elements and their potentially available forms, than at low flow. Measurement of water quality and suspended sediment parameters during flow events, indicated that resuspended bottom sediment may contribute suspended sediment with high phosphorus concentration. The levels of potentially available suspended sediment associated lead and zinc were above the levels of concern (Interim Threshhold Estimates) for filterable forms in freshwater on some occasions.

Feeding and Nutrition in Two Herbivorous Species of Austroperlid Stoneflies (Plecoptera)

By Mairi-Anne Mackenzie B.Sc.(Hons) thesis 1984 Monash University .

A study of the nutritional strategy in two species of Austroperlid stoneflies was made. Guts dissected from the bodies of both Acruroperla atra and Austroheptura neboissi were simple, straight tubular structures of uniform diameter, without caeca or diverticula. Under experimental conditions, the guts were found to harbour a sparse microbiota. Examination of conditioned plant material with the Scanning Electron Microscope showed a surface layer of fungi, bacteria and fine detritus on it. Fungi were also present inside leaf tissue. Similar examination of gut contents revealed an absence of microbes and detritus abundant on the plant material before ingestion. Involvement of live micro-organisms including protozoans, in austroperlid digestion is probably insignificant. No cellulolytic activity towards "Cellulose azure", a crystalline form of cellulose, was recorded. Homogenised guts containing food showed low levels of activity towards a soluble form of cellulose, carboxy methyl cellulose. This low activity was probably of microbial origin. pH of the gut contents was measured for both species by dissecting gut contents from the gut and either dispersing them in a liquid indicator (Haematoxylin) or pressing them onto pH paper. It is estimated that the pH in the midguts of both species is close to 9.0, a value which suggests digestion of microbial proteins bound, when ingested to lignans. At pH 9.0, the proteins would dissociate from the lignan, and would be more susceptible to digestion. When animals were placed in glass beakers and offered a choice of conditioned or unconditioned plant material, there was an overall preference for conditioned material. This suggests that the microbiota and/or their lingering biochemical effects are important to stonefly nutrition, possibly as a source of carbohydrate or protein, or both.

OBITUARY: Dr. T.T. MACAN

Dr. T.T. Macan, the British freshwater biologist whose books have stimulated scores of young students to explore the world of lakes and rivers, died recently (January). His parting will be mourned by many, for 'Tommy' was a much-loved and respected senior member of the international community of limnologists.

Most, though not all, of his professional life was spent as a staff member at the Freshwater Biological Association's Windermere laboratory in the English Lake District. There he investigated the biology of a wide range of invertebrate groups. As well, he was instrumental in producing many of the keys to British freshwater invertebrates that have proved so useful to generations of freshwater biologists in the U.K. For many years he was the Secretary-Treasurer of the International Association for Limnology, a task he carried out with flair and efficiency.

A kindly, courteous and most civilised man, he will be remembered by many Australian visitors to the Lake District, including myself, to whom he offered hospitality, encouraging words and much help.

W.D. WILLIAMS.

FOURTH AUSTRALIAN TRICHOPTERA CONFERENCE

The fourth Australian Trichoptera conference was held on the weekend of 8-9 December 1984 at the Tarra Valley National Park in south eastern Victoria. Unfortunately, for much of the weekend the weather was cool with intermittent rain, but while this interfered with attempts to collect adults it certainly didn't dampen the enthusiasm of those attending.

The following papers were presented:

TAXONOMY OF AUSTRALIAN HYDROPTILID LARVAE. Alice Wells.
An extensive study on larvae of Australian Hydroptilidae has been completed, and a publication is in press, An overview of the work was presented, and some of the difficulties in species identifications were highlighted.

TAXONOMIC STUDIES OF THE GENUS Enomus. David Cartwright.
A taxonomic revision of Australian species of the genus Ecnomus has been commenced. Currently only six species have been formally described, however the total Australian fauna numbers about forty species, most of which occur in northern Australia.

STUDIES ON THE CADDISFLIES OF TEMPORARY STREAMS. Andrew Boulton.
A progress report was presented on an ecological study of the Trichoptera of several temporary streams west of Melbourne.

AQUATIC INSECTS OF KANGAROO RIVER, NEW SOUTH WALES. John Dean.
Information was presented on Trichoptera community composition, and life histories of several common species. Species richness and relative importance of caddisflies, mayflies and stoneflies were comparable with a cool, upland river in Victoria.

THE LEPTOCERID GOURMET, OR WHAT LARRY HAD FOR LUNCH. Ros St.Clair.
Preliminary information was presented on diet and functional roles of Australian leptocerid larvae.

CURRENT STUDIES OF AUSTRALIAN TRICHOPTERA. Arturs Neboiss.
An illustrated atlas to the Trichoptera of the south-west Pacific area is currently being prepared. Some of the difficulties and taxonomic problems were discussed.

CONVERSATION STATUS OF AUSTRALIAN TRICHOPTERA. Francis Michaelis.
Insects have usually been neglected in Australian conservation programs. The importance of habitat conservation was emphasised, and establishment of computerised Trichoptera distribution records should assist in the identification of rare and endangered species.

A COMMUNICATION FROM BILL WILLIAMS

I have just received my copy of Franko and Wetzel's book "To Quench Our Thirst". I ordered it in August 1983! Having finished reading it I can say it was well worth the wait. It is not aimed at the scientific community, but rather at engineers, politicians and the educated lay community. However, I found the time spent reading it very rewarding. Almost all of what it says could very easily apply to Australia: I wish its message could be heard loud and clear here. Unlike other books of its ilk, it has been written by practising scientists - and for this if no other reason it deserves a wider readership here than I think it will get. I hope this note will help publicize the book. It cost $8.40. You tell me what that is in Australian dollars!

Pages: 1-148. Contents: 1 The Current Crisis; 2 The Dynamics of Fresh Water in the United States; 3 Water Supply and Demand Crises in Contemporary America; 4 The Degradation of Freshwater Supplies; 5 Human Populations and Water Crises: A Historical Perspective; 6 Our Present Situation; 7 Which Way to Go?; 8 What Must Change; Glossary; Index.

Cheer's,
W.D. Williams

Minutes of the 23rd Annual General Meeting of the Australian Society for Limnology held at Mt. Gambier on May 20th 1984.

1. The meeting commenced at 3.50pm.
2. The agenda as circulated was adopted.
3. Apologies were received from B. Timms, D. Pollard, D. Hume, R. Tilzey, F. Michealis, H. Midgely, A. Richardson.
4. Minutes of the previous meeting were accepted on the motion of P. Carey, seconded V. Brown.

5. Matters arising from the minutes.

5.1 Life membership account. The treasurer, M. Hart, reported that the amount from the three life membership subscriptions were currently invested in a separate short term account that provided adequate interest to cover annual subscriptions. M. Hart moved that the account be transferred to a two year investment account that on current rates would allow withdrawal of approximately $30 per life member, seconded G. Ganf, passed.

5.2 A.J.M.F.R. Funding by C.S.I.R.O.

The letter recommended at the previous AGM asking for increased funds and staff was sent. The reply received indicated that an increase in either funds or staff was unlikely. L. Bennett, Editor-in-Chief of the CSIRO Journals then spoke briefly indicating methods used by CSIRO to maintain the standard of the journals despite rising costs. To help with this and to reduce the time required for publishing, he asked members to have papers vetted by colleagues prior to submission to CSIRO and to letter their own figures.

6. Presidents report

This past year has seen major changes to the water industry in Australia. At the federal level, an Interim Council was set up to investigate the establishment of an Australian freshwater institute, NSW has developed a State Rivers & Water Supply Commission. In general I have not been very pleased with the effectiveness of ASL at influencing decisions relating to these changes. ASL did make a written submission to the Interim

Council and I met personally with the Council as President of ASL. Additionally, a number of other ASL members also met with the Council in their private capacity. ASL has also expressed a number of reservations about the Interim Council directly to Senator Walsh.

As I indicated in my Presidential address, I believe ASL should look closely at its role in the future and particularly at whether our present structures are sufficiently flexible to allow us to effect an increased role in water policy development in Australia.

This current year has been quite active. Perhaps one of the most innovative initiatives undertaken by your executive during the year was the workshop held in November, 1983 to develop for ASL a document on Australian Limnological Research Priorities. This document was forwarded to the Interim Council to assist them in developing water research priorities for Australia. The initiative worked well and should be considered as a possible vehicle for policy development in other ASL areas.

The executive met four times during the year and worked hard at keeping the society active. Throughout the years many ASL policies have been developed by executives and at annual meetings. Executive found it most difficult to consider these policies since they tend to be scattered through the minutes. These policy statements have now been brought together in a Policy Document. This will assist future executives in maintaining some consistency in policy decision making. We thank Sandy Morrison and Ian Campbell for their work in updating the ASL publicity brochure. Also you will have noted the Newsletter is now published more regularly and has more life - my thanks go to Ian Campbell who, as Editor, has initiated these changes. The last of the backlog of Special Publication - Leighton Llewellyn's 'The Distribution of Fish in New South Wales' - was published during the year. Russell Tait has continued his excellent work in building up an ASL Bibliography of limnological papers.

Details of ASL membership have now been placed on computer and this should facilitate the publication of a new membership directory and as well make considerably easier the distribution of accounts

and newsletters. The society has been successful in obtaining from CSIRO special rates for members wishing to subscribe to the Australian Journal of Botany and the Australian Journal of Zoology, as well as to the Australian Journal of Marine and Freshwater research.

The Victorian Chapter of ASL has again been very active throughout the year in holding meetings about every two months . Thanks to John Blyth for his leadership in this activity. Also the Victorian Stream Survey group have been active throughout 1983/84.

Once again, we have experienced a most successful conference - thanks are due to many, but particularly to Phil Suter, Paul Harvey and Margaret Hart. I extend a particular welcome to our visitors from USA and the People's Republic of China. The scientific program was organised by Ian McKelvie and Ian Campbell who were responsible for initiating the running of sessions by the 'younger' limnologists.

I must record officially my very sincere thanks to the executive for their support throughout the past year. Ros St Clair, as secretary, and Margaret Hart, as treasurer/membership officer, have been particularly hardworking. I thank them for their assistance to me and for their dedication to the Society.

Finally, I wish to thank the Society for honouring me by electing me President for 1983/84. I have enjoyed the year and I wish the new executive all the success for the comming year.

B.T. HART
MAY,1984

7 Secretary's report

Most correspondence was of a routine nature and has been dealt with. Items requiring discussion are listed under general business.

8 Membership Secretary/Treasurer's report

M. Hart reported that there were 410 members,including libraries and affiliated societies and 360 ordinary members. The financial statements for the 1982/83 and 1983/84 financial years are printed in the program. The following points were made:-

1. In 1983/84 more money was paid out than received.
2. The investment account is still substantial.
3. Postage has become a major item.

I. Campbell moved that the financial statement be accepted, seconded J. Blyth, passed.

9. Auditors report.

I. Mc Kelvie moved that the auditors report prepared by I. Hiscock be accepted
seconded S. Morison, passed.

10. Editors report.

I. Campbell reported that 3 newsletters and 1 special publication were sent in the past year. The special publication was The Distribution of Fish in New South Wales, prepared by L. Llewellyn.

A Bulletin is currently being prepared and should be finished in a few months. As papers submitted to the previous editor for publication in the Bulletin have not yet been sent to I. Campbell, he asked authors of such papers to contact him soon.

11. Jolly Award Committee report.

In comparison with past Jolly Award winners, the recipient of the Jolly Award this year is unusual in that he is a limnologist of international repute rather than with a specifically Australian background. The Jolly Award Committee is proud to present the Award this year to Professor Noel Hynes of the Department of Biology, University of Waterloo, Canada.

The Committee feels the Professor Hynes has made significant contributions to Australian limnology in two important ways. Firstly, through his numerous publications and, through informal and formal

personal contact, he has been a guiding and stimulating mentor to many Australian limnologists. He has supervised Australian limnologists at both Ph.D. and Post-doctoral level; in the case of one eminent Australian limnologist supervised at the University of Liverpool, transportation to Australia - a long sought life ambition.

Noel Hynes' publications are numerous, 171 at the latest count (March 1984) and are of a high standard. In papers he has published on stonefly taxonomy and biology - his first paper at the age of 23 was a pioneering study of the British Plecoptera - on the control of locusts, cockroaches and simuliids, on the biology of freshwater fish and amphipods, on the effects of pollution on streams, and on the ecology of streams and their fauna. It is in the last field that Professor Hynes has made his most significant contribution to limnology, so much so that his name is synonymous with modern stream ecology. To carry out his research he has worked in Britain, Europe, Trinidad, Africa, Iceland, Canada and Australia. He has published two major texts - pivotal texts - in limnology. They are "The Biology of Polluted Waters" (1960), reprinted four times, and that detailed yet highly readable tome "The Ecology of Running Waters" published in 1970 and already reprinted twice. Many can vouch for the stimulating effect that these books have had on Australian limnologists; indeed when the Chairman of the Award Committee was a young man trying to sort out the effects of pollution on the Molonglo River, he can remember his debt to "The Biology of Polluted Waters" for, in comparison with much of the pollution "literature", the book stood out - a pearl amongst the sludge.

Noel Hynes, with his wife Mary, has twice visited Australia for extended stays. In 1970- 1971 he was a Visiting Professor to the Department of Zoology, Monash University, and in 1978 he was an Honorary Research Associate of the Department of Botany, University of Tasmania. In both of these stays, he carried out extensive field work - collecting and studying stoneflies - and offered "sound advice and reassurance to Australian limnologists". From his Australian sojourns and collaborations with Australian workers, 13 papers on stoneflies and one on chironomid biology have been produced. One was published by this Society in 1978,

namely the "Annotated Key to the Stonefly Nymphs (Plecoptera) of Victoria"

Thus the Committee feels sure that you all agree that Professor Noel Hynes has not only contributed significantly to Australian limnology but to limnology as we now know it, and that Professor Hynes is a most worthy recipient of the Jolly Award for 1984.

12. Student Prize Committee report.

The Committee members for this congress were D. Mitchell, B. Mitchell, J. Harris and J. Kirk.

D. Mitchell remarked on the very high standard of the student papers this year and then outlined the criteria used to select the best student paper. The criteria were i) Presentation, including introduction of the subject, aids used, rapport with the audience and ability to deal with questions. ii) Content, including clear statement of objectives, approach used, timing and a sensible and valid conclusion. iii) The relevence and worth of the work. The prize was awarded to Rodger Croome.

13. Student assistance to attend the congress.

F. Burns reported that he together with J. Blyth and I. Bayly considered the applications and all five students applying were assisted. Some problems arose with the criteria used to select students and modifications were suggested for the incoming executive to consider.

14. Door Prize Committee Report.

R. Marchant as Chairperson of a large and fortunately anonomous committee awarded an unwanted oven door to P. DeDekker for the most unorthodox and bizarre talk of the congress. The recipient of this new award is expected to bring the prize to the next congress and organise for the presentation of the 1985 award.

15. Future Congresses.

The 1985 congress will be held near Perth in August. The 1986 congress will be in or near Melbourne. This will be the 25th congress.

R. Norris tentatively suggested Canberra for the 1987 congress. The incoming executive to consider altering the time for this to Febuary 1987 to be near the time of the S.I.L. meeting in New Zealand.

16. Election of the executive.

The following were elected unopposed for 1984/85:-
President J. Kirk (ACT); Vice President I. Campbell (VIC.); Secretary R. St Clair (VIC); Membership Secretary / Treasurer M. Hart.
Executive Members:- J. Chambers (WA), L. Barmuta (VIC); J. Dains (WA), P. De Dekker (ACT), S. Bunn(WA), P. Suter (SA), A. Sharley (NT), T. Hillman (NSW).

17. Auditor.

S. Lake nominated I. Hiscock as auditor for 1984/85, seconded I. Campbell, passed.

18. General Business.

18.1 Australian support for Asian limnology studies.

W. Williams received a letter from the President of SIL, Dr. H. Loffler, concerning the possibility of starting an Australian Limnology course for students from S.E. Asia. After discussion, W. Williams was empowered to writer on behalf of A.S.L. to the Australian Development Assistance Bureau suggesting they i) fund Postgraduate Courses in Australian tertiary institutes for Asian Students ii) assist students in coming to Australia for these courses and iii) send people to lecture on Limnology in Asian institutes. It was suggested that Asian limnologists be contacted so that they can request the same help from A.D.A.B.

18.2 Distribution of ASL special publications.

I. Campbell reported that postage and cost of publications were becoming major costs and suggested i) sending special publications only to those members who requested them. ii) charging a low cost to members

for special publications. After discussion it was decided that special publications will be sent only on request. The number of copies printed will depend partly on the number of requests received from Members. To help contain costs it was suggested that future papers submitted be assessed by the editor in terms of weight in relation to postal and printing costs as well as by the present criteria. Bulletins and special publications should continue to be sent with newsletters or handed out at congresses whenever possible.

18.3 Taxonomic Research.

I. Campbell described the Australian Biological Resources Bureau's method of nominating animal groups for funding as unsatisfactory. I. Campbell moved that a small working party produce a policy for ASL to send to A.B.R.S. outlining suitable criteria for research on invertebrates in Australian inland waters, seconded J. Blyth, passed.

18.4 Limnological research in Australia.

The results of the ASL workshop on research priorities held in November 1983 were printed in the Newsletter vol. 22. no 2.. B. Hart requested any members wishing to comment further to send details to him.

18.5 D. Mitchell moved a motion proposing that the new executive establish a working group to look into possible changes to the executive structure as discussed by B. Hart in his presidential address, seconded B. Harasymiw, passed.

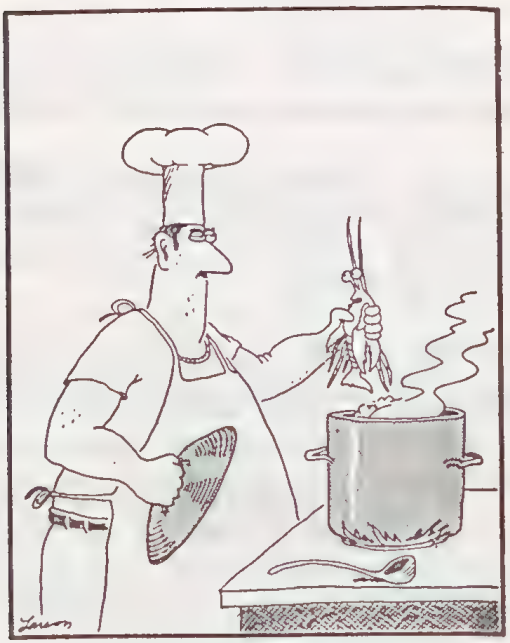
18.6 B. Hart reported that after consideration of the financial state of ASL the executive did not think a rise in subscriptions was needed.

18.7 B. Hart suggested that assistance to students for the 1985 congress only be raised to $2,000 and that up to 10 students be helped, due to the greater costs involved. This was accepted with the provision that the financial state of ASL be considered carefully at the time.

18.8 P. DeDekker spoke on the need for a detailed textbook on Australian Limnology, ideally with several editors and numerous contributors. The executive was instructed by the meeting to look into possible funding for such a book from the bicentenial committee and possible C.S.I.R.O. support.

18.9 J. Kirk moved that an honorium of $300 be paid to M. Hart for her work as Membership Secretary/Treasurer, seconded W. Williams, passed.

The meeting closed at 5.45pm



"Three wishes? Did I say three wishes? . . .
Shoot! I'll grant you FOUR wishes."

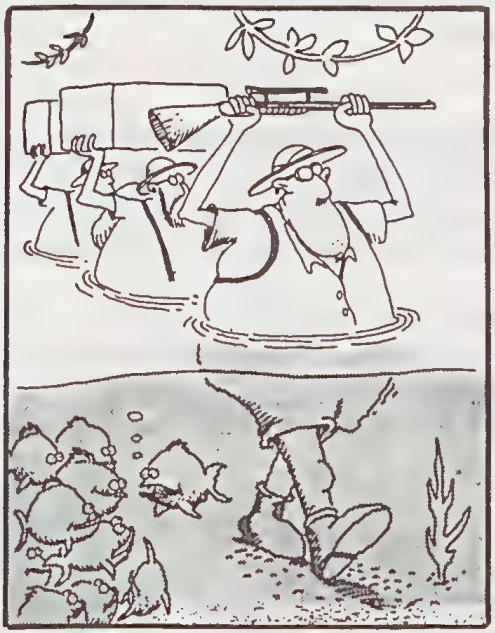
BIBLIOGRAPHY

There is no bibliography for this issue!
Why is there no bibliography?
Because Russell Tait had received only TWO entries for this edition.

So please, if you have any references to be included in the bibliography, forward the titles, abstracts, reprints or citations to:

Russell Tait
Esso Australia Ltd.
G.P.O. Box 4047
SYDNEY N.S.W.
2001.

In the meantime, you can be further amused by yet another cartoon by Gary Larson!



"Just nibble at first . . . But when you hear them yell 'Piranha!' — go for it."

25-28 June 1985.

North American Benthological Society Annual Meeting.

Venue : Oregon, USA.

Details : Dr A.C. Hendricks, Biology Dept. Virginia Polytech., Blacksburg, Virginia 24061, USA.

7-20 July 1985.

Sixth International Seminar on Environmental Impact Assessment.

Venue : University of Aberdeen, Scotland.

Details : Centre for Environmental Management and Planning, University of Aberdeen, Scotland.

16-19 July 1985.

Estuarine and Coastal Pollution : Detection Research and Control.

Venue : Plymouth, England.

Details : Dr. P. Williamson, NERC, Polaris House, North Star Ave, Swindon, SN2 1EU, England.

4-9 August 1985.

Third International Symposium on Regulated Streams.

Venue : Edmonton, Canada.

Details : Water Quality Branch, Alberta Environment, 6th Floor, Oxbridge Place, 9820 106 Street, Edmonton, Alberta T5K 2J6, CANADA.

16-19 August 1985.

Australian Society for Fish Biology Annual Meeting.

Venue : Melbourne.

Details : Dr P. Cadwallader, Snobs Creek Hatchery, Private Bag 20, Alexandra 3714.

23-25 August 1985.

Australian Society for Limnology, 24th Annual Congress

Venue : Jarrahdale, Western Australia.

Details : Ms J. Chambers, Botany Dept, University of Western Australia, Nedlands, W.A. 6009.

26-30 August 1985.

55th ANZAAS Congress.

Venue : Melbourne.

Details : Executive Secretary, 55th ANZAAS Congress, Monash University, Clayton 3168, Victoria.

26 August - 2 September 1985

Third International Symposium on Inland Salt Lakes.

Venue : Nairobi, Kenya

Details : To be advised

1-5 September 1985.

Second International Symposium on the Brine Shrimp Artemia.

Venue : Antwerp, Belgium.

Details : Dr. ir. E. Jaspers, Institute for Marine Scientific Research (IZWO), Prinses Elisabethlaan 69, B-8401 Bredene, Belgium.

10-13 September 1985.

Chemistry for Protection of the Environment.

Venue : Leuven, Belgium.

Details : 8th International Conference of Chemistry for Protection of the Environment, c/- K. VIV, Jan van Rijswijcklaan 58, B-2018 - Antwerpen, Belgium.

22 June-9 July 1986

Second International Symposium on Indo-Pacific Marine Biology

Venue : University of Guam

Details : Prof D.H. Montgomery, Biological Sciences, Cal Poly State University San Luis Obispo, California, USA, 93407.

10-16 August 1986

Global Connections in Ecological Theory and Practice.

Venue : State University of New York, USA.

Details : IV International Congress of Ecology, SUNY College of Environmental Science and Forestry, Syracuse, NY 13210, USA.

17-24 August 1986

The First International Congress of Dipterology.

Venue : Budapest, Hungary.

Details : Dr. Laszlo Papp, Zoological Department, Hungarian Natural History Museum, Baross u. 13., Budapest, H-1088 HUNGARY;

8-14 February 1987.

XXIII Congress of the International Association of Theoretical and Applied Limnology (S.I.L.)

Venue : Hamilton, New Zealand.

Details : Theme : Water, to use and enjoy. Further information will become available through Tyler.

18-24 February 1987

Fifth International Conference on Ephemeroptera.

Venue : Marysville, Victoria.

Details : Dr I. Campbell, Water Studies Centre, Chisholm Institute of Technology, East Caulfield 3145.

18-24 February 1987

Ninth International Conference on Plecoptera.

Venue : Marysville, Victoria.

Details : Dr I. Campbell, Water Studies Centre, Chisholm Institute of Technology, East Caulfield 3145.

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